

GEOMETRY LEVEL 2
FINAL EXAM 2004
PART ONE (1 POINT EACH)

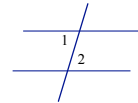
Match the appropriate definition/illustration for each term by writing its letter in the space provided. Not all letters are used.

- | | |
|------------------------------------|---|
| 1. ____ Hexagon | A. The perimeter of a circle |
| 2. ____ Rhombus | B. A pair of figures whose corresponding sides are <u>proportional</u> and whose corresponding angles are equal |
| 3. ____ Supplementary angles | C. A pair of figures whose corresponding sides are <u>equal</u> and whose corresponding angles are equal |
| 4. ____ Complementary angles | D. A pair of angles whose sum is 90° |
| 5. ____ Median | E. A seven-sided polygon |
| 6. ____ Cone | F. A six-sided polygon |
| 7. ____ Circumference | G. A four-sided polygon with all equal sides |
| 8. ____ Trapezoid | H. A pair of angles whose sum is 180° |
| 9. ____ Prism | J. A four-sided figure with one pair of parallel sides and one pair of non-parallel sides |
| 10. ____ Similar figures | K. The line joining one vertex of a triangle to the midpoint of the opposite side |
| 11. ____ Alternate interior angles | |
| 12. ____ Corresponding angles | |
| 13. ____ Congruent figures | |

L.



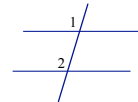
O.



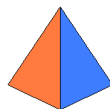
M.



P.

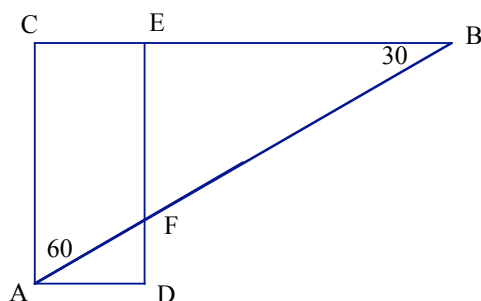


N.



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Use the diagram below for problems #14- #16

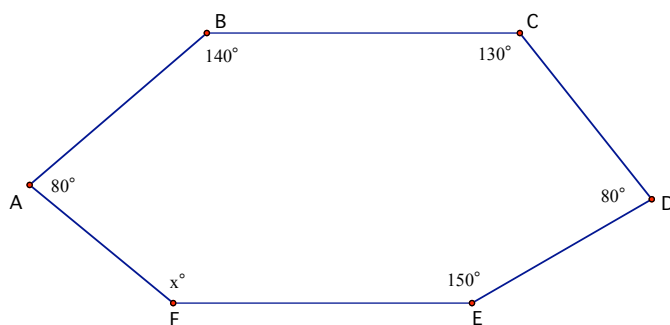


14. If $\angle AFD \cong \angle CAF$, then find the measure of $\angle EFB$. _____

15. If $\angle AFD \cong \angle CAF$, name two line segments _____ and _____ that must be parallel.

16. If $\overline{CA} \perp \overline{CB}$, then find the measure of $\angle ACB$. _____

17. In the figure below, find the value of x. Show your equation. _____

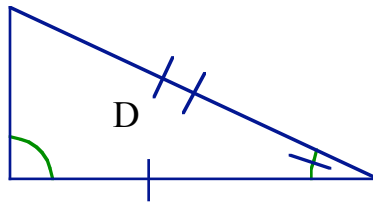
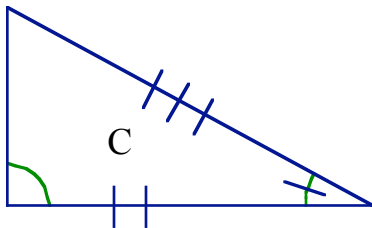
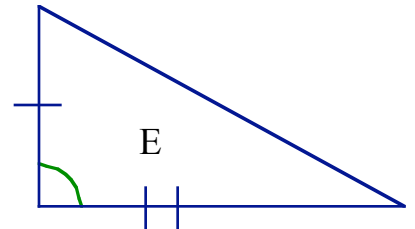
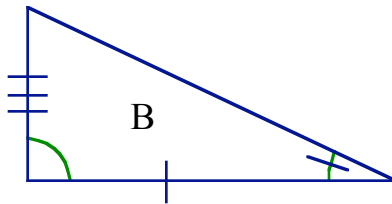
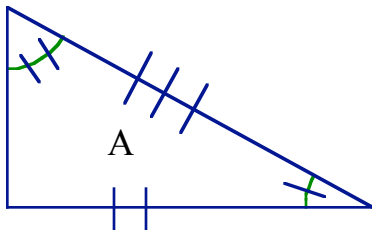


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For following 2 problems determine which triangles are congruent by the given reason:

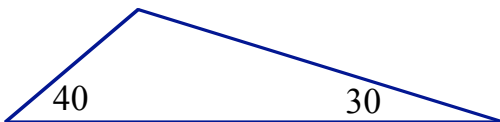
18. Which two triangles are congruent by ASA? _____ and _____

19. Which two triangles are congruent by SAS? _____ and _____



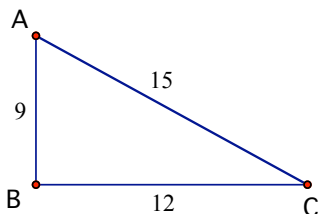
20. Determine the type of triangle.

a) acute b) right c) obtuse _____



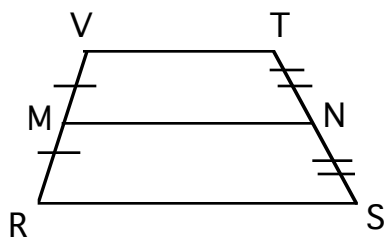
21. Determine the smallest angle.

a) $\angle A$ b) $\angle B$ c) $\angle C$ _____

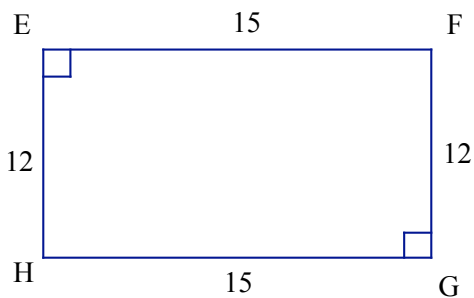
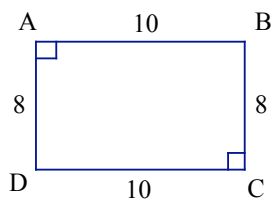


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22. Use the diagram below. $VT = 9$ and $RS = 13$
Find MN .



- Use the diagram below for problems #23 - #24.
Find each ratio in simplest form.

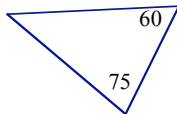
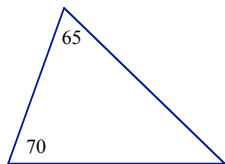


23. $\frac{AB}{EF}$

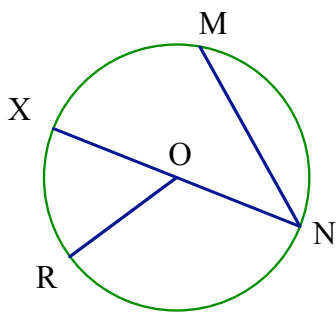
24. $\frac{\text{perimeter of } ABCD}{\text{perimeter of } EFGH}$

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25. Tell whether or not the polygons are similar. Write 'yes' or 'no'.



For problems #26- #28 use the diagram below. O is the center of the circle.



26. Name a diameter and find its length if $OR = 5$.

Diameter: _____

length: _____

27. Name a radius.

28. Find the circumference of the circle if $OR = 5$.

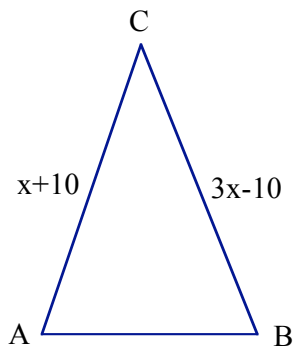
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PART TWO (2 POINTS EACH)

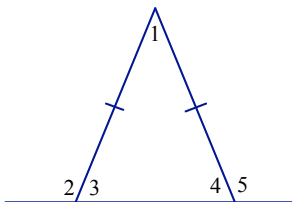
Partial credit WILL be given for work shown. NO CREDIT will be given for answers that cannot be read.

29. If the measures of the angles of a triangle are represented by x , $2x$, and $2x + 20$, what is the value of x ? _____

30. Use the following diagram. If $\angle A \cong \angle B$, find x . _____

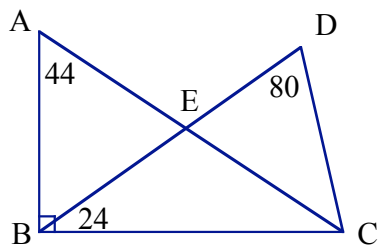


31. If $m\angle 2 = 125^\circ$, then what is the $m\angle 1$? _____

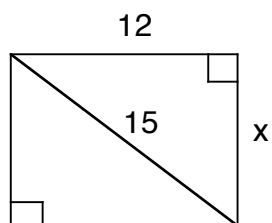


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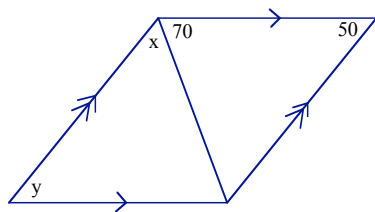
32. In the diagram below, find the measure of $\angle DCA$.



33. Solve for x:



For problems 34 and 35, use the diagram below.

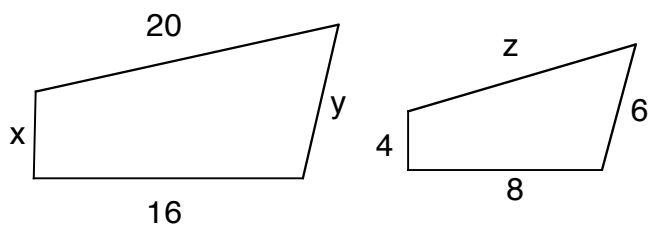


34. Find x.

35. Find y.

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Use the diagram below for problems 36 - 38. The two polygons are similar.

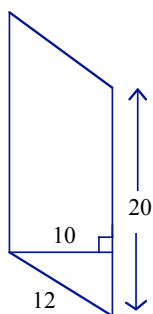


36. Find x .

37. Find y .

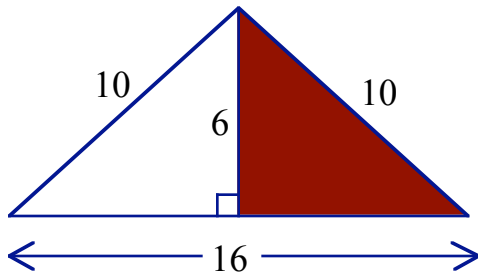
38. Find z

39. Find the area of the parallelogram.

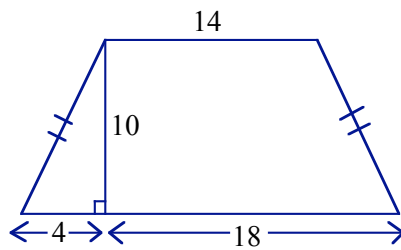


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40. Find the area of the shaded region

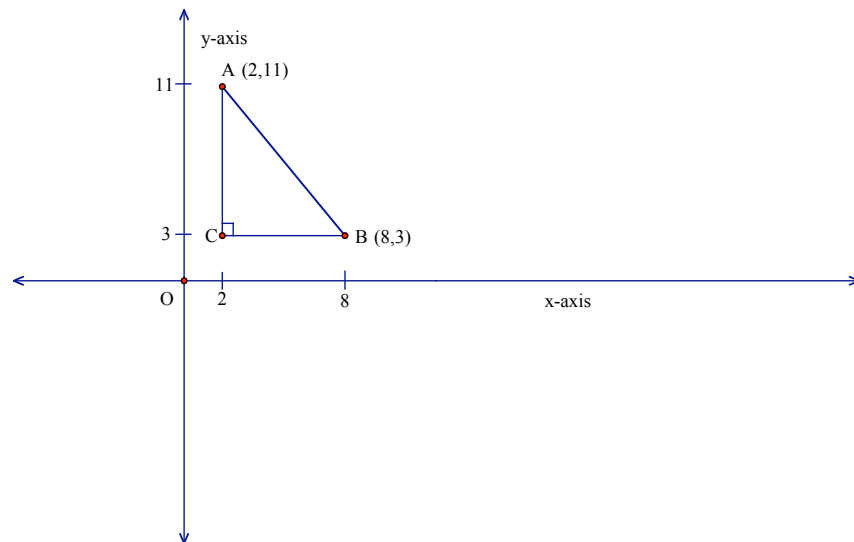


41. Find the area of the trapezoid.



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In the figure below, if $\overline{AC} \perp$ to the y - axis and $\overline{CB} \perp$ to the x - axis, find the following



42. the coordinates of C _____

43. AC and CB _____ and _____

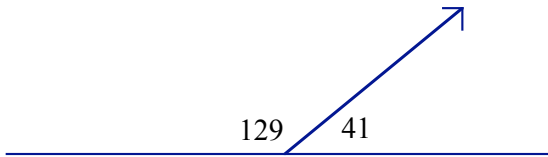
44. The midpoint of \overline{AB} _____

45. the perimeter of $\triangle ABC$ _____

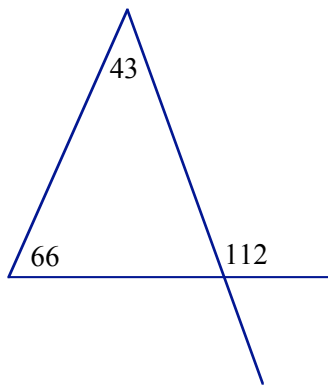
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For problems 46 – 48, explain what is wrong with each of the pictures.

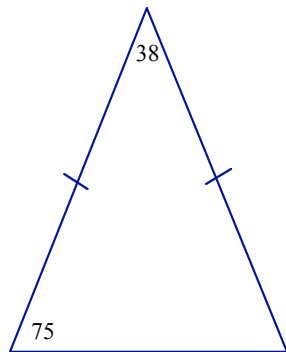
46.



47.



48.



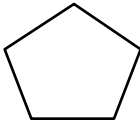
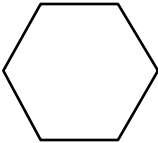
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For each pair of geometric terms listed below,

- Explain the difference between them.
- Draw a pair of pictures illustrating the difference.

An example problem is shown.

Example: pentagon vs. hexagon

The difference between them:	Pictures illustrating the difference:
<p>A pentagon has 5 sides but a hexagon has 6 sides.</p>	<div data-bbox="894 621 1032 741"></div> <p data-bbox="894 821 1008 852">pentagon</p> <div data-bbox="1144 621 1300 762"></div> <p data-bbox="1157 821 1260 852">hexagon</p>

49. isosceles triangle vs. scalene triangle

The difference between them:	Pictures illustrating the difference:

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50. rectangle vs. rhombus

The difference between them:	Pictures illustrating the difference:
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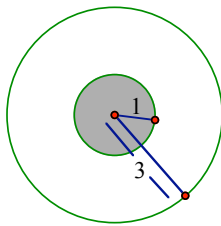
51. convex quadrilateral vs. concave quadrilateral

The difference between them:	Pictures illustrating the difference:
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52. Ralph designed a target computer game. On his screen the circular targets look like the circular areas shown below. If the computer randomly generates a dot that lands within the circular areas, what is the approximate probability that the dot will land in the shaded area?

a. $\frac{1}{8}$ b. $\frac{1}{9}$ c. $\frac{1}{3}$ d. $\frac{1}{4}$ e. $\frac{1}{7}$

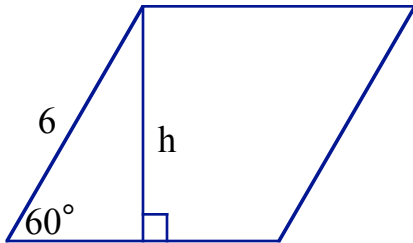


53. The circular field house floor is 200 feet in diameter. If you have to run one lap around the circumference, how far would you have to run?

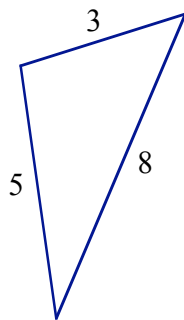
54. A one foot square floor tile (1 ft x 1 ft) costs \$1.00 per square foot. How much would it cost to tile a classroom floor 20 ft long and 15 ft wide? Show all work.

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55. The rhombus below is a glass panel for a door. How many square inches of colored glass will you need for the panel? Show work.



56. Given the measurements of the sides of the triangle, explain what is contradictory about the measurements.



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